Board Of Intermediate & Secondary Education, HYDERABAD, SINDH.

Secondary School Certificate Part – II Annual Examination 2012

Annual Examination 2012 | **MATH** | HYDERABAD BOARD

Time: 15 Minutes M. Marks: 15

Note: (1) Attempt all the questions. Each questions carries ONE mark.
(2) Do not copy down the part questions in your answer book.
Write only the answer in full against the proper number of the Question and its part, and MCQs question paper must be attached with answer book.
(3) The Code of your question paper must be mentioned in bold letters in the answer book.

Section-A
Multiple Choice Question (MCQs)

NOTE: Choose the correct answer for each from the given options:

(i) {2,4,6,8................,50} is written in set builder form............
(a) $\{x \mid x \in N, x \leq 50\}$ (b) $\{x \mid x \in E, x \leq 50\}$
(c) $\{x \mid x \in Q, x \leq 50\}$ (d) $\{x \mid x \in E, \leq x \leq 50\}$

(ii) If $\log_2 x = 3$ then x = ...
(a) 6 (b) 8 (c) 10 (d) 5

(iii) $(\sqrt{x} + \sqrt{y})(\sqrt{x} - \sqrt{y})$=...............
(a) $(\sqrt{x} + \sqrt{y})^2$ (b) $(\sqrt{x} - \sqrt{y})^2$ (c) $(\sqrt{x} - \sqrt{y})$ (d) x-y

(iv) The L.C.M of x^3-y^3 and x^6-y^6 is ....
(a) $x^3 - y^3$ (b) $x^3 + y^3$ (c) $x^6 + y^6$ (d) $x^6 - y^6$

(v) In a triangle ABC, angles A, B, C are called...........
(a) Exterior angles (b) Interior angles (c) Supplementary angles
(d) None of these

(vi) If $|A| = 0$, then Matrix A is called.............
(a) Singular Matrix (b) Non-Singular Matrix (c) Null Matrix (d) None of these

(vii) If a,b,c are in continued proportion, then............
(a) $ab=c^2$ (b) $a^2=bc$ (c) $ac=b^2$ (d) None of these

(viii) The sum of 230 item is Zero, their mean is ....
(a) 50 (b) -10 (c) Zero (d) 10

(ix) The value of $\sin 30^o$ is ....
(a) 2 (b) $\frac{1}{2}$ (c) -2 (d) $\frac{1}{\sqrt{2}}$

(x) x+1=0 is a .... in a variable x.
(a) Quadratic equation (b) Non linear equation
(c) Linear equation (d) Irrational equation

(xi) (U-A)=.............
(a) U (b) A (c) A' (d) None of these

(xii) $\tan 60^o$ = ...
(a) $\tan 30^o$ (b) $\cot 60^o$ (c) $\cot 30^o$ (d) None of these

(xiii) Multiplicative Identity is ....
(a) 0 (b) 1 (c) 2 (d) -1

(xiv) The value which divides a set of data into two parts is called ....
(a) Arithemetic Mean (b) Mode (c) Median (d) None of these

(xv) Through three non-collinear points........... circle can pass.
(a) Three (b) Two (c) One and only one (d) None of these

(xvi) In a right angle triangle the side opposite to right angle is called..........
(a) Perpendicular (b) Base (c) Hypotenuse (d) Altitude

(xvii) $(2^{-6})^2$ = ...
(a) 2^{-3} (b) 2^3 (c) 2^{-12} (d) 2^{12}

(xviii) A circle which touches all sides of a triangle is called......... of the triangle.
(a) Circum circle (b) Inscribed circle (c) Escribed circle (d) None of these

(xix) $(a+b)^2 + (a-b)^2$ = ...
(a) 4ab (b) a^2+b^2 (c) $2(a^2+b^2)$ (d) 2ab

(xx) If a:b=c:d, then a:c=b:d this property of proportion is called............
(a) Dividendo (b) Alternando (c) Invertendo (d) Componendo

TIME ALLOWED: 2:40 MINUTES MARKS: 60

SECTION – B

NOTE: Answer Any TEN of the Following Questions. 36
All Quistions Carry Equal Marks.

Q-No:2 If A = {1,2,3,4,} and B= {2,4,6,8}, then verify that A-B=A-(A∩B)

Q-No:3 Rationalize the denominator $\frac{1}{4+3\sqrt{2}}$

Q-No:4 Find the value of y, if $\log_{\sqrt{5}} 25$=y.

Q-No:5 If P (x) =$2x^4 + 3x^3$-x-5, then find P(-2).

Q-No:6 Find the value of 4ab, when a-b=8 and a+b= -7.

Q-No:7 Factorize any TWO of the following.
(i) $a^2b^2 - 6ab+9$ (ii) a^2-b^2-2a+1 (iii) $7y^2-14y-21$

Q-No:8 Simplify: $\frac{y^2+y+1}{y+1} \times \frac{y-1}{y+1} \times \frac{y^2-1}{y^3+1}$

Q-No:9 Eliminate v_f from of following equations by comparison method.
v_f=v i+gt, S=v it - $\frac{1}{2}$ gt^2

Q-No:10 If $\frac{a}{b+c} = \frac{b}{c+a} = \frac{c}{a+b}$ and a+b+c ≠ 0 Prove that a=b=c

Q-No:11 Describe the advantages and disadvantages of Median.

Q-No:12 Define kinds of triangle.

Q-No:13 Construct a triangle ABC in which mCA=6 cm, mBC = 10 cm and m∠A=90°

Q-No:14 Prove that: $\frac{\sin\theta}{1-\cos\theta} = \frac{1+\cos\theta}{\sin\theta}$

Q-No:15 Prove that, if a perpendicular is drawn from the centre to a chord of circle, it bisects the chord.

SECTION – C

NOTE: Answer Any THREE of the Following Questions. 30
All Quistions Carry Equal Marks.

Q-No:16 Find the L.C.M of the polynomials by factorization. $6x^2+11x+3, 2x^2-5x-12, 3x^2-11x-4$

Q-No:17 If A = $\begin{bmatrix} 1 & 3 \\ 2 & 4 \end{bmatrix}$ B= $\begin{bmatrix} 1 & 0 \\ 3 & -1 \end{bmatrix}$ and C= $\begin{bmatrix} -1 & -2 \\ 2 & 4 \end{bmatrix}$ then prove that (AB)C=A(BC)

Q-No:18 (a) Prove that the sum of the measures of the angles of triangles is 180°
(b) The measure of the angles of a triangle are in the ratio 1:2:3. Prove that it is a right angle triangle.

Q-No:19 (a) A mother is 21 years older than her new born baby. How old will the baby be when her age is $\frac{1}{4}$ that of her mother?
(b) Find the solution set of $\sqrt{25y-6} = 4\sqrt{y+3}$

Q-No:20 (a) Solve Δ ACB when m∠C=90°, m∠A=30° and a=4cm.
(b) A ladder makes an angle of 60° with the horizontal and reaches upto the height of 5 meters on a wall. Find the length of the ladeer.